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## ABSTRACT

To examine the impact of technological innovation on student involvement in college, six community colleges were visited to interview faculty, staff, administrators, and students. The visits and interviews focused on current applications of technology, future plans, implications for professional development and staffing, implications for student involvement, and plans for addressing the costs of technology. Based on the visits the following seven themes emerged: (1) does the institution know what the big picture is?; (2) little thought appeared to have been given to the role of technology in connecting students with the institution and each other; (3) support from faculty leaders was crucial in successfully implementing programs; (4) student services were often on the leading edge of technological innovation at the colleges visited; (5) support from college management was another key element for program success; (6) staff tended to support technology initiatives when they were involved with and informed about them; and (7) the issue of access, training, and support for technology is critical to ensure that everyone can take advantage of new programs. A checklist for gauging an institution's effectiveness in addressing the seven themes is appended. (BCY)

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# Technology, Distance Learning, Student Affairs:

## All in the Same Breath?

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## INTRODUCTION

Community colleges are in the midst of fundamental changes, and no one knows how the pieces will fall together in the future.

Among the changes are:

- increased pressures to be accountable, to show results, to prove effectiveness
- having to do more with less, because of flattening or declining budgets
- more pressures to be partners in community enhancement and workforce development
- an impending tidal wave of retirements of our employees, particularly within the faculty ranks
- the exploding expansion of technology and in the delivery of distance learning
- and, of course, the ever-changing nature of college students

• Students are changing dramatically, as we well know.

- a. More diversity than ever before
- b. More working full-time, or at least part-time
- c. More with families (sandwich generation)
- d. More part-time than full-time
- e. More with multiple obligations in their lives
- f. More complexities in their lives

The pressures for change are embodied in a myriad of initiatives in our colleges. For example, in Maricopa County's large district of ten colleges, spread over 9,400 square miles and enrolling over 95,000 students per semester, there are many efforts to change how programs and services are delivered. A few examples are:

- a. A districtwide technology transformation effort called Project Apollo which was made possible by a \$386 million capital bond issue, \$87 million of which is dedicated to the enhancement of technology
- b. A Mathematics Reform program to change the way math is to be taught and learned
- c. A project called Ocotillo, intended to infuse technology into the curriculum and pedagogy

- d. A Health Education Commission reform movement whose purpose it is to align the allied health programs of our colleges with the emerging needs of the profession and the community
- e. A districtwide activity entitled Learning Paradigm whose intent it is to redefine learning and teaching within the Maricopa Community College District
- f. Two National Science Foundation grants, totaling over 19 million dollars, directed at enhancing the achievement of underrepresented students in math and science
- g. And, a systemwide effort aimed at assessing and improving the delivery of student services to the changing student body

What do all of these changes mean to our community college students, many of whom are commuting (car-to-classroom-to-car), juggling 3 or 4 things at any given time, and difficult to engage or involve outside the classroom?

Alexander Astin and Vincent Tinto stress the importance of making a connection, either academically or socially, with someone or something at the institution -- in-and-out-of-the-classroom. While it is inside the classroom where the students experience the most contact with staff from the college, and where they are judged on the merit of their academic ability, it is outside of the classroom where other forms of successful campus connection and integration can influence a student's persistence and attainment.

Astin has written, "Student involvement refers to the quantity and quality of the physical and psychological energy that students invest in the college experience." Is anyone giving thought to how all of the above-mentioned initiatives and changes are going to enhance the level of student involvement?

John Naisbitt wrote,

"Whenever new technology is introduced into society, there must be a counter-balancing human response - - that is, high touch - - or the technology is rejected."

There is a paradox of progress. That is, on the one hand it seems clear that technology can facilitate student access to programs and services; it appears that it can, when done skillfully, engage and involve students with the curriculum. But as the economist said, "On the other hand ---." When technology is not blended with the essential human element it can inadvertently create a community of isolates.

To examine the impact of technological innovation on student involvement in college, six community colleges were visited to look at, among other things:

- Their current applications of programs and services via technology
- What their future plans for delivery of programs and services via technology were
- What they saw as implications for professional/staff development and training
- What staffing issues and trends they had identified
- Whether or not they had identified the implications for students
- And finally, what plans they had for addressing the costs associated with technology.

Approximately one week was spent at each institution interviewing a wide array of faculty, clerical staff, administrators and students. Because of the openness of those interviewed, a great deal was learned, much of which could not have been planned or anticipated.

## **LESSONS LEARNED ALONG THE WAY**

Seven themes and related questions emerged from the visits to the 6 benchmark colleges.

### **Theme One: The Big Picture**

When George Bush was running for President the first time, he talked about "the vision thing." A difference was detected between those colleges which appeared to have a sense of congruence between their institutional missions and their technology agenda and those that did not. In some colleges, the mission had been spelled out and appeared to be "bought into" by employees. At the institutions where this had been done, and the mission re-visited from time to time, the technology agenda was then developed and implemented as part of the natural process. This may seem terribly obvious, but a surprising number of institutions were not doing this. In short, is the institution's mission driving the technology or is the technology driving the institution? In other words, is the bigger picture being kept clearly in mind? Or more basic than this is whether or not the institution even knows what the big picture is.

Another important consideration is whether or not the technology agenda is supported at the very top by the board, president, and the executive level administrators. At those colleges where this was indeed the case, there was evidence of a long-term commitment. It was understood that the technology agenda was a long distance race and not a sprint. Everyone seemed to know that it was not merely this year's fad, to be replaced by next year's. At those institutions where there was not this level of deep-seated support, atrophy had set in. Tangible evidence of this lack of support was clearly evident to the faculty and staff alike. Doubt, cynicism, and skepticism were the result.

One college provides a good example. Through the spring and summer terms the college's representatives and the faculty's representatives were embroiled in contract negotiations. A major sticking point had to do with distance education and technology. After nearly thirty meetings and the fall term had begun, the issue was resolved. The result was hard feelings, lack of trust, and a technology agenda effectively placed on hold during the three year term of the contract.

Those institutions which had done a good job of thinking through the tie-in between their overall mission and their technology agenda had spent a significant amount of time asking and answering how learning and teaching were being enhanced by the application of technology. Note the order -- the "learning" and "teaching." That is, the successful institutions had thought through how the student was to be impacted.

An important hallmark of successful institutions has to do with their willingness to be critically analytical of their systems. In other words, they are open to introspection and self-scrutiny. Some of this scrutiny comes in the form of business process reengineering in one form or another. Flowing out of this effort is the ability to determine which programs and services can be enhanced by the application of technology and which can not. Four critical questions need to be asked and answered:

- Is there any proof that this technology is appropriate?
- Is there any proof that it is effective?
- Is it as effective as or more effective than current alternatives?
- Does research show the effect of this technology on learning outcomes?

Very few of the institutions visited had taken the time or made the necessary effort to develop a human resources plan based upon current and future technology skill needs. All acknowledged the importance of doing this, but few had actually done so. It appeared that no institution had begun to build a cogent human resource strategic plan based upon the technological (high tech) and interpersonal (high touch) skill sets needed to replace the huge number of retirements anticipated by the turn of the century.

Several institutions had begun to think through some of the high tech/high touch issues. Not surprisingly, some of these efforts were being spurred by the student services division. Most, however, admitted that as an institution, they had quite a long way to go.

A critical consideration had to do with how people were being brought along in regard to the infusion of technology. Some of the colleges were doing this very well, as a natural consequence of the overall leadership of the institution. Others, on the other hand, were suffering the natural consequences of a lack of such leadership. Reflecting upon Naisbitt's quotation, if people are not being brought along, the technology agenda within the particular institution is doomed to failure.

#### Theme Two: The Student

Now let's switch from George Bush's "vision thing" to Bill Clinton. When Clinton was running for the Presidency the first time, there was a poster in his campaign office which said, "It's the economy, stupid." The second theme to focus upon is: "It's the student, dummy." The primary stakeholder. As mentioned earlier, it is important to find out how colleges are using technology to facilitate the all-too-important connection and involvement of the student with the institution and with other students. What role can technology play in forging those important connections which ensure a greater chance of ultimate success for the student?

While visiting the colleges, interviewees were asked what thought they were giving to this issue. Was careful thought and attention being given to how technology, specifically the computer, could facilitate the connection between the student and the programs and services which the college had to offer? Was such thought being given to how technology could connect students with other students, both inside and outside the classroom?

Regrettably, there is little evidence of such planning and thought. Even though everyone visited said it was important to do!

This is worrisome, but at the same time it is a fertile area for a potential partnership across the institution between the offices of academic affairs and student services. Each institution acknowledges the importance of bolstering student involvement and connection via technology. Most said they thought this was a likely outgrowth of the technology initiative -- IF they waded into it in an intentional and organized manner. There's real potential here.

This is an area where student services needs to step up as more of a partner in the learning and teaching imperative. For instance, very little is being done to assess the readiness of students for courses and programs being delivered at a distance via technology. Far too often, students are simply "plopped into" such offerings, with little thought given to appropriateness or likelihood of success. This is wrong! It's a prescription for failure for far too many students who otherwise might succeed. This is an area in which instruction and student services have to join in a collaborative partnership aimed at smoothing the movement of students into and through distance programs in particular and the maze of technology in the classroom in general. Developmental advising, student assessment, and course placement are major components and should include students' readiness for, comfort with, and access to the technology. Briefly put, such assessment and placement is not merely testing. To be done well, it must include advising information, support, training, and the technology itself. This is an area where the high touch and the high tech must converge.

Clearly there is a problem which needs to be recognized regarding those students who have ready access to the technology and those who do not. If we don't acknowledge this and do something about it, we will only widen the gap that already exists. This is a societal issue which has not been addressed.

For example, in the greater Phoenix area there are two very different schools, just 13 miles apart. One is in a very affluent area and the fourth grade class has a computer for each student. The other school is in a very poor area. There was one outdated Apple II in the fourth grade, and midway through the year it was stolen! In short, we dare not forget about this gap. It is not one world in terms of access to technology.

Again, the question is how we are bringing people along. In this instance, are we engaging students in the planning and implementation of the technology agenda or are we forgetting our reason for being in this endeavor called education?

### Theme Three: Instructional Leadership and Teaching Faculty

The third theme which evolved from the visits centered on the instructional leadership and the teaching faculty. In those colleges that were moving forward with the technology agenda, there was a commitment at the top - from the president to the vice president or dean, and it was a long-term commitment. Just as importantly, the faculty leadership was a partner in the planning and implementation.

Where things were working well, the faculty were not unduly frightened at the prospects of the technology taking their jobs or gutting the quality of the courses and programs. Of course, where such collaborative partnerships had not been formed there were some real horror stories. Already mentioned is the college where there were the more than twenty meet-and-confer sessions which ground to a halt. Perhaps it was Murphy's Law at its worst!

In those institutions where careful and collaborative planning was evident, they were thinking through such questions as what types of delivery modalities were appropriate for what kinds of students and at what time in their development. Even more importantly, they were establishing criteria for assessing both the appropriateness and effectiveness of such delivery systems. In short, the technology was rightly considered as a tool and not a panacea.

The faculty in those institutions where the technology was being wisely applied or at least considered openly were aware that they were being called upon to change. They were grappling with the change process. They were addressing the question of "why go through such a change?" They were answering the question, "What's in it for me?" In other words, they were not having the technology imposed upon them. They were being brought along as a group and were moving forward as a result.

### Theme Four: Student Support Services

The fourth theme revolves around student support services. When beginning the visits, I had the preconceived notion that student affairs was behind the curve when it came to the utilization of technology. That is, I had the impression that student services was lagging behind academic affairs in employing state-of-the-art technology. However, the visits revealed that this was not the case, and, in fact, in some cases student services were on the leading edge of innovation as it related to use of technology.

This appeared to be especially true in the areas of admissions, registration, records management, career services, on-line access to advising information, and, in some cases, financial aid. This having been said, there still are many things that colleges can be doing to improve programs and services. And there is a fertile opportunity here for close collaboration between student services and academic affairs.

For instance, student services needs to become more active in assessing student readiness for distance courses; in setting the stage, and in creating a fit to ensure a greater level of student success in those sorts of courses. The value of setting the stage can be illustrated by something that happened to me recently as I was about to fly to a meeting.

It was a very early morning flight and we were blearily waiting to board the flight to Denver. Suddenly the boarding agent got on the intercom and stated that because there were so few passengers that morning, he was going to implement the "Spiritual Boarding" procedure. Slowly his message found its way to our sleepy brains, and we looked around to see if others heard what we thought we heard. Once he had our attention, he explained that we could board whenever the spirit moved us. As we made our way onto the plane, I noticed that all of us were chuckling and discussing his comment. In short, he helped us prepare for what was to come. No, he didn't fly the plane, but he did sharpen our experience of the flight. And I can't help but conclude that this is what student services can do to enhance the student's experience with technology and distance learning.

Those now in student services - - and those hired in the future - - need to have a different, or perhaps more accurately, an expanded skill set in order to be a valuable partner in the technology initiative. Specifically, first they must be proficient in the use of technology. This does not mean that they have to become techies. It does mean, however, that they have to be comfortable and nimble with technology. Second, at least some in student services must become current in the latest learning theory and brain research. This rapidly expanding body of knowledge has immense implications for how people learn - - and it will impact how programs and services are to be delivered in the future - - with or without technology. This leads into the third set of skills which must be sharpened: assessment of student readiness for distance learning. Presently, colleges are not doing a good job of determining who is a candidate for distance delivered courses, programs, and services as we presently configure them, and who is not.

This is not to suggest that we should be assessing and placing students into technologically delivered courses in the old "round peg in a round hole" method. Nor is it the human who necessarily must make the adjustment to the technology. On the contrary, we are going to have to make many significant alterations to technology for it to meet human needs. These changes will be made in the future. Student services personnel have to partner closely with academic affairs and the "techies" in order to address this issue. Finally, the fourth new or enhanced skill set has to do with the evaluation of the effectiveness of distance programming. Student services needs to play a major role in conducting both formative and summative evaluations. Of course, this can only be done when a sense of mutual respect and trust is established between student services and instructional faculty.

As with the other themes, a major question is how people in student services are being brought along. Are they included in the planning and implementation? Is their perspective on the student valued and counted?

#### Theme Five: Management

The fifth theme centers on the management level of the college. This theme is different from the first theme (the Big Picture) which dealt with the policy leaders of the college. Stephen Covey offers this distinction between leaders and managers:

"Effective management is putting first things first. While leadership decides what 'first things' are, it is management that puts them first, day by day, moment by moment. Management is discipline, carrying it out."

As mentioned in the Big Picture theme, there needs to be a consistency of vision and effort in order to make technology a core ingredient of the institution. Management is absolutely critical to the long term successful implementation of the institution's technology initiative. Those institutions that bring their managers along, offering them proper skill training, support, and essential technology are able to reap the benefits of able and forward looking management personnel who are not threatened by the advances they are seeing. Instead, they see themselves as being part of those advances. They report that they believe they are vital players in the realization of the institution's future. In short, they are committed for the long haul to technology and distance learning.

In order for an institution to maximize its future as it relates to technology, there clearly needs to be a unified effort as it relates to efficient and effective use of resources. After all, technology and distance delivery of programs and services come with a high price tag. Perhaps a question that needs to be kept before everyone is whether or not the technology is worth the price. What's the cost and what's the benefit?

In Maricopa, as a result of work conducted by Alan Jacobs, we've come to realize that most computers purchased 5 years ago have fallen into disuse. We've also made the assumption that to replace a computer it will be at an average cost of \$2500. You can probably extend computer life by a mid-life upgrade of \$300 on the average. We anticipate spending approximately 2.7 million dollars per year for desktop computers alone. On the brighter side, the cost of computing power drops roughly 30% every year, and microchips are doubling in performance power every 18 months. Computer power is now 8,000 times less expensive than it was 30 years ago.

There is, nonetheless, an inevitability to the costs of technology which must be realized. Unless the technology agenda is handled skillfully by able leaders, it can scare faculty and staff and make them wonder if the technology costs are going to make them expendable.

Remember Naisbitt's statement. If people are not brought along, are not involved directly in the planning and implementation, technology will be rejected.

#### Theme Six: Staff Attitude

The sixth theme that evolved from the visits has to do with clerical staff attitude. The differences between institutions was quite apparent when it came to how the staff perceived technology and distance delivery of programs and services. In those institutions where staff were involved and informed, they were squarely aligned with the program. This was the result of strong college leadership and an effective infrastructure of support. That word "support" is a key ingredient in determining whether or not the staff is engaged or disenfranchised.

There were those institutions in which the staff were fearful and worried about their jobs being replaced by the technology. There were those employees who saw technology as the code word for downsizing. And, of course, they were resistant.

One person summed up another set of feelings about technology at her college. She stated that she and her colleagues had been told that the new technology would free them up to do higher order work with students, thus unchaining them from the mundane. In truth, she said, because there was not an acceptable level of training and technical support, whenever the hardware or software or system failed, they had to trouble-shoot and attempt to fix it. She stated that she felt that they were having to do more work, and a lower level of work, than before the time the new technology was implemented. And she was convinced the student suffered a lack of service as a result.

This may not be a fault of the technology at all, but it certainly points up a problem in planning and implementation. Inadequately-supported employees question the commitment of the college's leadership and they have become cynical about technology. More troubling is that they are not being heard nor are they being brought along.

#### Theme Seven: Access, Training, and Support

The seventh and last theme is one of access, training and support. In many ways this is the litmus test for the commitment of the institution to the technology agenda and to distance learning.

A key question is what access to technology means. Does it mean providing an employee or student with a desktop or laptop and the newest software without the essential training and technical support? The answer is obvious.

How do we address the issue of haves and have nots (employees and students alike) which was mentioned earlier? How are other public entities (e.g., libraries) to be incorporated as partners?

When is it more appropriate to have a student exit the information superhighway than to access it? How is this to be determined? Shouldn't academic affairs and student services work together on this issue? Again, the answer is obvious. Not all students are ready for, nor do all students even prefer, utilizing technology to access their educational program. Those institutions who have figured that out and who have blended the high tech with the high touch are most likely to be successful in delivering distance education in the future - - no matter how it is defined.

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One of the colleges visited is developing a comprehensive distance learning program which combines the academic program with such enrollment management components as telephone registration, on-line registration, traditional advisement/counseling and on-line advisement/ counseling and an orientation to distance learning programs.

## CONCLUSION

In closing, Thomas Jefferson advised, "In matters of style, swim with the current. In matters of principles, stand like a rock." Technology and distance learning are not ends in themselves. They are means to an end. They are tools, and if they are to be utilized well, they must contribute to student learning and development. Technology has to be part of the vision and the mission of the institution, for it is inevitable. But, it must not be the vision or mission. Technology will help transform higher education in the future, but that does not mean we cannot direct its course. In order to know with any certainty what is and is not appropriate and to give direction to the technology agenda, we must employ the following four components:

1. Research to get at questions such as:
  - a) What are our needs?
  - b) What hardware is needed?
  - c) Who else is using it?
  - d) What relational data base issues should be considered?
  - e) Will students like/use the system? How user-friendly is it?
2. Planning to address things like:
  - a) Should the components be networked or should they stand alone?
  - b) What kind of technical support will be provided (internally and externally)?
  - c) What are the training issues the staff needs to consider? Time? Costs?
3. Implementation to include:
  - a) Is the system easily upgraded?
  - b) Is it compatible with existing equipment?
  - c) Where can students use the system?
4. Evaluation to determine the effectiveness of distance learning and technology-enhanced instruction and programs.

No community college is doing all of these things well. Nobody has it all nailed down. These are areas we all need to work on.

Finally, as educators we must be agile enough to move with the technological current. At the same time, we have to help our institutions keep a clear eye on our core principles. Now and then we need to remind ourselves what we're about: Learning from the heart and teaching from the soul.

## APPENDIX

On the next page is a Self-Assessment Score Card which may be used to help you determine how your institution is addressing the seven themes discussed in the body of the paper. There are two parts to the assessment: level of importance and level to which the themes are being addressed at the institution.

# SELF-ASSESSMENT SCORE CARD

Instructions: Please circle the number which applies at your institution.

## Level of IMPORTANCE at My Institution

1. not important at all
2. not very important
3. somewhat unimportant
4. neutral
5. somewhat important
6. important
7. very important

## Level ADDRESSED at My Institution

1. not addressed at all
2. not addressed to any degree
3. somewhat unaddressed
4. neutral
5. somewhat addressed
6. pretty well addressed
7. very well addressed

not ← **IMPORTANT** → very

1 2 3 4 5 6 7

### THEME

The Big Picture  
(congruence between mission  
and technology agenda)

not ← **ADDRESSED** → very well

1 2 3 4 5 6 7

1 2 3 4 5 6 7

The Student  
("connection" between  
student and institution via  
technology)

1 2 3 4 5 6 7

1 2 3 4 5 6 7

Instructional Leadership &  
Teaching Faculty  
(partnership in planning and  
implementing distance delivery)

1 2 3 4 5 6 7

1 2 3 4 5 6 7

Student Support Services  
(collaboration with academic  
affairs in advancing  
technology agenda)

1 2 3 4 5 6 7

1 2 3 4 5 6 7

Management  
(consistency of vision and  
effort at management level)

1 2 3 4 5 6 7

1 2 3 4 5 6 7

Staff Attitude  
(buy-in and support)

1 2 3 4 5 6 7

1 2 3 4 5 6 7

Access, Training, & Support  
(evidence of commitment by  
institution at operational level)

1 2 3 4 5 6 7